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CLAIMS:

What is claimed is:

1. A method in a data processing system for processing instructions, the method comprising:

receiving a threshold value and an identification of one or more addresses to be monitored during the execution of a computer program;

associating hardware counters with the one or more addresses;

executing the computer program and incrementing respective counters when the one or more addresses are accessed; and

performing an action in response to a determination that a predefined relationship between the threshold value and a combination of values obtained from the hardware counters is present.

2. The method of claim 1, further comprising:

arithmetically combining values of the counters to generate a combined counter value;

comparing the combined counter value to the threshold value; and

performing the action in response to a relationship between the combined counter value and the threshold value being present.

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3. The method of claim 2, wherein the action includes:
generating an interrupt if the predetermined
relationship between the combined counter value and the
threshold value is present.

4. The method of claim 2, wherein the steps of
arithmetically combining values of the counters,
comparing the combined counter value, and performing the
action are performed in response to incrementing a
counter.

5. The method of claim 2, wherein the steps of
arithmetically combining values of the counters,
comparing the combined counter value, and performing the
action are performed within microcode of a processor of
the data processing system.

6. The method of claim 3, further comprising sending
the interrupt to an interrupt handler of a performance
monitoring application, wherein the interrupt handler
performs an operation based on receipt of the interrupt.

7. The method of claim 6, wherein the operation is at
least one of generating a log entry in a performance
monitoring application log and notifying a log daemon
process of an event.

8. The method of claim 2, wherein arithmetically
combining values of the counters includes combining

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values in accordance with a condition indicated by a performance monitoring application.

9. A computer program product in a computer readable medium for processing instructions comprising:

first instructions for receiving a threshold value and an identification of one or more addresses to be monitored during the execution of a computer program;

second instructions for associating hardware counters with the one or more addresses;

third instructions for executing the computer program and incrementing respective counters when the one or more addresses are accessed; and

fourth instructions for performing an action in response to a determination that a predefined relationship between the threshold value and a combination of values obtained from the hardware counters is present.

10. The computer program product of claim 9, further comprising:

fifth instructions for arithmetically combining values of the counters to generate a combined counter value;

sixth instructions for comparing the combined counter value to the threshold value; and

seventh instructions for performing the action in response to a relationship between the combined counter value and the threshold value being present.

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11. The computer program product of claim 10, wherein the action includes:

generating an interrupt if the predetermined relationship between the combined counter value and the threshold value is present.

12. The computer program product of claim 10, wherein the fifth, sixth and seventh instructions are executed in response to incrementing a counter.

13. The computer program product of claim 10, wherein the fifth, sixth and seventh instructions are executed within microcode of a processor of the data processing system.

14. The computer program product of claim 11, further comprising eighth instructions for sending the interrupt to an interrupt handler of a performance monitoring application, wherein the interrupt handler performs an operation based on receipt of the interrupt.

15. The computer program product of claim 14, wherein the operation is at least one of generating a log entry in a performance monitoring application log and notifying a log daemon process of an event.

16. The computer program product of claim 10, wherein the fifth instructions for arithmetically combining values of the counters includes instructions for

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combining values in accordance with a condition indicated by a performance monitoring application.

17. An apparatus for processing instructions comprising:
means for receiving a threshold value and an identification of one or more addresses to be monitored during the execution of a computer program;

means for associating hardware counters with the one or more addresses;

means for executing the computer program and incrementing respective counters when the one or more addresses are accessed; and

means for performing an action in response to a determination that a predefined relationship between the threshold value and a combination of values obtained from the hardware counters is present.

18. The apparatus of claim 17, further comprising:

means for arithmetically combining values of the counters to generate a combined counter value;

means for comparing the combined counter value to the threshold value; and

means for performing the action in response to a relationship between the combined counter value and the threshold value being present.

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19. The apparatus of claim 18, wherein the action includes:

generating an interrupt if the predetermined relationship between the combined counter value and the threshold value is present.

20. The apparatus of claim 18, wherein the means for arithmetically combining values of the counters, means for comparing the combined counter value to the threshold value, and means for performing the action operate in response to incrementing a counter.

21. The apparatus of claim 19, further comprising means for sending the interrupt to an interrupt handler of a performance monitoring application, wherein the interrupt handler performs an operation based on receipt of the interrupt.

22. The apparatus of claim 21, wherein the operation is at least one of generating a log entry in a performance monitoring application log and notifying a log daemon process of an event.

23. The apparatus of claim 18, wherein the means for arithmetically combining values of the counters includes means for combining values in accordance with a condition indicated by a performance monitoring application.